

REMARKS

In light of the remarks to follow, reconsideration and allowance of this application are respectfully requested.

Claims 1-21 and 45-52 remain in this application. Claims 1, 14 and 45, the only independent claims in this application, are amended to obviate what appears to have been an unwarranted interpretation. The amendments to these claims simply clarify the claimed subject matter.

At paragraphs 3-14 of the outstanding office action, the Examiner has rejected claims 1-3, 10-18, 20, 45-49 and 51 under 35 USC 103 as being unpatentable over Rogers (US Patent No. 5,497,500) in combination with Cismas (US Patent No. 6,996,799). Applicants respectfully traverse the rejection.

Claims 1, 14 and 45 recite that the second processing element is placed in a particular location downstream from said first processing element, that both the first and second processing elements are adapted to receive a waveform signal and to process the received waveform signal and to forward the processed waveform signal to a downstream processing element. Furthermore, the claims continue to recite that the waveform signal processed by the first processing element is forwarded to the second processing element upon a request to receive the processed waveform signal passed upstream from said second processing element. Upon receipt of the request, the first processing element then processes and forwards the waveform signal thus processed by the upstream first processing element to the second processing element. This amendment makes explicit what had been implicitly recited in the claims, that the upstream first processing element does not perform its processing operation until it receives the request from the downstream second processing element for the processed waveform signal. To clarify this

feature of Applicants' claimed invention, claim 1, as well as independent claims 14 and 45, recites that "said first processing element is idle until it receives a request" from the second processing element, "whereupon the first processing element processes and forwards the processed waveform signal." Thus, the claimed processing web operates in a "pull-type" arrangement for processing waveform signals, whereby upstream processing is performed and resulting processed waveform signals are supplied to a downstream element only when and if the downstream element requests processed waveform signals from the upstream element. That is, processed waveform signals are pulled downstream from the upstream element. Therefore, in accordance with the claimed invention, processing does not occur in an upstream component until that processing is requested by a downstream component. This precludes the need for a buffer or other storage medium to store the output from an upstream processing element that is not yet needed. See, for example, page 14, line 13 to page 15, line 17 of the instant specification.

It is respectfully submitted the combination of Rogers and Cismas do not describe such a pull-type system. As mentioned in Applicants' previous amendment, Rogers depicts a system where processing of upstream data is processed in a conventional manner, when appropriate input data is received at the inputs of the processing element. However, this is just the problem the present invention is trying to avoid. Because each processing element in Rogers processes data upon receipt of appropriate inputs, a buffer is required between each processing element to store an output until needed by the next processing element. Indeed, processing in the Rogers reference is shown as progressing from the provision of input data in each case, rather than the request for processing from a downstream component.

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The Examiner relies upon Cismas for an alleged description of an upstream module waiting for a request from a downstream module before sending data to the downstream module. At best, Cismas' upstream module processes data and holds that data until a request is received. Cismas thus requires the buffer that the present invention avoids. Cismas does not teach that the upstream module is idle and does not process data until a request for data is received. On the contrary, after reading and understanding Cismas, one of ordinary skill in the art would recognize that Cismas processes data in his upstream module and stores that data until a downstream module requests the data. The portion of Cismas referred to by the Examiner, in particular, col. 5, lines 20-32, teach an indication of data that is available to be transmitted. If data is available, it must have already been processed. And if that processed data is available to be transmitted, it must be stored until a request for it is received. Therefore, Cismas does not suggest that upstream processing is not initiated until a request for data is received from the upstream module.

In contrast, however, in accordance with the present invention, an upstream processing element does not process waveform signals, even if appropriate inputs are available, until such processing is requested by a downstream processing element. This results in a cascade-type processing system where input waveform signals may be stored in a single buffer. Upon a request for processing of a waveform signal by a last processing element, all processing elements upstream in a chain back to the original storage buffer in turn request that an upstream processor process waveform signals. Therefore, when processing actually takes place, data is processed at each processing element and then passed to a next element waiting for the processed waveform signals, having previously requested that the upstream processing element perform the requested

Because the cumulative teachings of Rogers and Cismas fail to depict such a method and system as claimed, Applicants respectfully submit that independent claims 1, 14 and 45 are patentably distinct from the combination of Rogers and Cismas.

Claims 2-3 and 10-14 depend from claim 1; claims 17, 18, 20 depend from claim 14; and claims 46, 48, 49 and 51 depend from claim 45. Consequently, these dependent claims include all of the limitations recited by the respective claim from which they depend. Therefore, the rejections of these dependent claims should be withdrawn for the reasons noted above. Additionally, each of the dependent claims presents an independently patentable combination in its own right, and is therefore patentable for this additional reason.

Applicants therefore respectfully request that the rejection of claims 1-3, 10-18, 20, 45-49 and 51 under 35 USC 103 be withdrawn.

At paragraphs 15-23 the Examiner has rejected claims 4-9, 19, 21, 50 and 52 under 35 USC 103(a) as being unpatentable over Rogers in view of Cismas and further in view of Zink (US Patent No. 6,738,964). Applicants respectfully traverse the rejection.

Claims 4-9, 19, 21, 50 and 52 depend either directly or indirectly from one of independent claims 1, 14 and 45 and are therefore allowable for this reason alone, and additionally as presenting independently patentable combinations in their own right. Applicants submit that the addition of Zink fails to cure the defects of Rogers and Cismas noted above with respect to the independent claims. Applicants therefore respectfully request that the rejection of claims 4-9, 19, 21, 50 and 52 under 35 USC 103(a) be withdrawn.

CONCLUSION

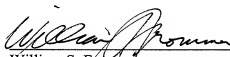
CONCLUSION

Applicants have made a diligent effort to explain why claims 1-21 and 45-52 are in condition for allowance, and notice to this effect is earnestly solicited. If the Examiner is unable to issue a Notice of Allowance at this time, it is respectfully requested that the Examiner contact the undersigned attorney to discuss any further outstanding issues.

Early and favorable consideration is respectfully requested.

Respectfully submitted,
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